BLaST
BIOMEDICAL LEARNING AND STUDENT TRAINING

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Scientist of the Month

UAF COLLEGE OF NATURAL SCIENCE & MATHEMATICS
University of Alaska Fairbanks

Maggie House

Maggie House, a second-year UAF BLaST Scholar and a senior, plans to graduate with a B.S. in Natural Resources and Environment in May 2024. She grew up in a military family and has lived in many US states and countries, but Tennessee has a special place in her heart. She enjoys learning languages and about cultures and being outdoors. While serving as a deckhand on a glacier cruise boat in Valdez, she became interested in climate change. She plans to apply to graduate school and become an environmental lawyer.

Research

House's current project, "Biomonitoring Cripple Creek's Water Quality After a Reconstruction Through Macro-Invertebrate Diversity," focuses on monitoring water quality at Cripple Creek in Fairbanks, Alaska, through the Alaska Rivers lab of the USGS Alaska Cooperative Fish and Wildlife Research Unit. House collected macroinvertebrate samples, a strong indicator of how healthy an ecosystem is. The Cripple Creek restoration project is an ongoing project overseen by local organizations. Her macroinvertebrate samples were taken this past summer after the historic channel regained flow for the first time in nearly a century. She also assisted with winter ice measurements of Cripple and Happy Creek where she discovered that water flow under the ice during the winter existed and contributed to the creek's erosion. Her research was highlighted in the US Fish and Wildlife Service article, *Natural flows return to Cripple Creek* by Christian Thorsberg. House shared, "I have a firm belief that the health of our environment is intertwined with the health of humans. I am interested in making science-related issues more understandable, for everyone to be a part of their local community. In my future, I see myself continuing to work towards strengthening the relationship between humans and nature and promoting the conservation of our dependence on one another."

Mentoring

House is mentored by Christi Buffington, a Science Education Specialist at the International Arctic Research Center. House shared, "I have never met anyone who was genuinely so passionate about helping others learn and participate in science. I knew very little about conducting research, and with Buffington's guidance, I am now continuing a second research project. I also would like to thank Dr. Jeffrey Muehlbauer who helped me learn more about macroinvertebrates and create my bio-monitoring methodology." Buffington shared, "Maggie's curiosity is contagious; kids in a summer camp crowded around her to learn all about bugs, water quality and how they can be good stewards. She's a patient and engaging communicator. The kids want to be just like Maggie when they grow up!" House published her data as part of the Global Learning and Observations to Benefit the Environment (GLOBE) program, an international organization highlighting citizen science. House gained mentorship skills at the 2022 GLOBE Alaska Student Research Symposium for seventeen rural Alaska communities by mentoring and training younger students in STEM. House also was a guest scientist for the Youth for Habitat program in June 2023 in the local Fairbanks Soil and Water Conservation District, where she and others helped provide shade for salmon habitat. In House's BLaST career, she is mentored by Lori Gildehaus and Sarah Barcalow, BLaST Research, Advising and Mentoring Professionals.

Top left: *BLaST Scholar Maggie House as a deckhand in Valdez, AK. Photo credit: M. House, 2023.*
Left: *House collecting macroinvertebrate samples at Cripple Creek. Photo credits for this and following photos: C. Buffington, 2023.*
Above Left: *House monitoring water flow, Cripple Creek.*
Above Right: *Macroinvertebrate samples, Fairbanks, AK.*

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